acter correlated rarely or not at all by other features; hence, a comprehensive revision of the genus is needed to clarify the taxonomy.

In all the specimens of *D. oblanceolata* thus far examined, a proliferous bud has been found at the apex of the sterile leaves. This character has been observed in three of the other five species of the genus in Peru; it is frequently found in *D. humilis* Moore and *D. trichomanoides* Moore, and occasionally in *D. moritziana*. Apical proliferations are also found in several other West Indian and Central American species. Although this is an interesting feature, it is usually not a diagnostic one, for in most species with which I am familiar, it is not fully constant.

REVIEWS

"*A monograph of the fern genus* Pyrrosia *(Polypodiaceae),*" by P. Hovenkamp. 1986. xiii + pp. 1–280 including 6 pp. of photos and 37 figs. "*The* Pyrrosia *species formerly referred to* Drymoglossum *and* Saxiglossum *(Filicales, Polypodiaceae),*" by W. J. Ravensberg and E. Hennipman. 1986. pp. 281–310, 4 figs. Leiden Botanical Series, Vol. 9. Available from E. J. Brill, P.O. Box 9000, 2300 PA Leiden, Netherlands, 120 guilders, approx. $53.33. ISBN 90-04-08065-1.

Pyrrosia is among the most abundant of Old World epiphytes in both individuals and species. In his 1947 Genera Filicum, Copeland estimated 100 *Pyrrosia* species without including *Drymoglossum*, a number now reduced to a conservative 51 by Hovenkamp, Ravensberg, and Hennipman.

Although combined in a single volume, the monograph has two sections with different authors; the pagination is continuous, and all species are included in one key, but the indices to collections and taxonomic names are not integrated. The much smaller second portion by Ravensberg and Hennipman treats six species of four different affinities, grouped only because the six were often referred to *Drymoglossum* and *Saxiglossum*, both reduced to *Pyrrosia*. The main treatment dealing with 45 species, by Hovenkamp, also has detailed sections on morphology, phylogeny, and biogeography. Altogether it is a very thorough and impressive accumulation of information. The nomenclature, descriptions, and distributions are authoritative and very useful.

However, the chapter on phylogeny was not easy for me to understand, and I found the premise, that *Pyrrosia* and *Platycerium* are sister genera, unlikely. Such would require that an immediate ancestor of *Platycerium* was also the ancestor of all extant *Pyrrosia*. A more attractive hypothesis is that *Pyrrosia* is considerably older than the highly specialized *Platycerium*, and had already diversified into plural species we would unhesitatingly classify as *Pyrrosia* if extant today, and that one of these early *Pyrrosia* species was the source of *Platycerium*.

Perhaps the sister genus misconception has led to further misconceptions. I believe the immediate ancestor of *Pyrrosia* was very similar to other polypods, sharing a creeping rhizome with internal sclerenchyma strands, peltately at-

tached paleae, fronds articulate to phyllopodia, veins anastomosing with regular areoles, hydathodes present, etc. But instead of allowing for a common origin with other Polypodiaceae, Hovenkamp (pp. 100–102) presents a case for a relationship of *Pyrrosia* with *Dipteris,* a genus with a radically different groundplan and with only a very remote affinity, at best, to the polypods.

On the basal branch of the *Pyrrosia* cladogram (p. 95) is the *P. africana* group consisting of two African species that completely lack rhizome sclerenchyma, have ±irregular venation, pseudopeltate paleae, vestigially articulate fronds, no woolly rays of stellate hairs, a total absence of hydathodes in one, the other with a unique modification of the annulus. These two species appear to me to be reduced derivatives of the *P. porosa* group which they closely resemble in overall morphology and which contains two other African species with reduction characters transitional to these in rhizome sclerification and laminar indument.

A further argument against the *P. africana* group being relictual in *Pyrrosia* is phytogeographical. The genus would probably have reached tropical America if, as hypothesized, it had an early origin in what is now Africa; by far the greatest diversity in the genus is now in the eastern Himalayas, southeast Asia, and Malesia.

However, it is only because Hovenkamp gives us so very much information that it is easy to debate with him about the phylogeny of his genus. This is a positive, not a negative aspect, and not a detraction from the great value of the work as a whole.—M. G. PRICE, Herbarium, North University Building, University of Michigan, Ann Arbor, MI 48109.

"*Index of Thelypteridaceae,*" by J. W. Grimes and B. S. Parris. 1986. iv + 50 pp. Royal Botanic Gardens, Kew. Available from B. Parris, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, England. £7.25 (incl. postage and handling). ISBN 0 947643 03 6.

This is an alphabetical listing by specific epithet (accepted names and synonyms) of all species of *Thelypteris* s.l., with citation of original genus and current disposition of the name as recognized by authorities in the group. There is also a selected bibliography of 65 references to major literature concerning the family. No new combinations are included. The list will be useful primarily to curators of herbaria who wish to arrange their specimens according to recent reclassifications, primarily by Holttum, and also as a reference for specialists and floristicians working with the family. I found the work to be relatively free of errors, but a brief search uncovered several overlooked basionyms and incorrect attributions of current names.—ALAN R. SMITH, Department of Botany, University of California, Berkeley, CA 94720.